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DEVELOPMENT OF AN INTERPRETIVE SERVICES PROGRAM

FOR THE NORTH KAIBAB RANGER DISTRICT

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ABSTRACT

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TITLE: Development of An Interpretive Services Program for the North Kaibab Ranger District

ABSTRACT: The North Kaibab Ranger District is located in a highly scenic region commonly referred to as the Grand Circle. Tourism is the major industry in the region and is increasing annually. Visitation to the District, which is adjacent to the North Rim of Grand Canyon National Park, is about 500,000 visitors each year indicating that people are discovering the wide array of recreation opportunities provided by the North Rim area and the District in particular. An opportunity exists to provide visitors with a well-rounded interpretive services program to enhance their stay by providing opportunities to learn about the history, culture, environment, and resource management programs of the District.

This paper describes a process for developing an interpretive services program by conducting an inventory that considers existing interpretive services, audience (customer) preferences, and themes for interpretation. Interpretive media, sites, funding, and monitoring are discussed and recommendations made. The end product of the paper is a plan that outlines an interpretive services program for the District. Included is an implementation schedule discussing personnel needs, publicity, site development priorities, funding, and monitoring.

Keywords: interpretive services, interpretive programs, interpretive planning, interpretation, Kaibab National Forest

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
INTRODUCTION	1
Situation Statement	2
Statement of Purpose	2
LITERATURE REVIEW	3
METHODS	4
Interpretive Inventory	4
Existing Interpretive Services	5
Audience	5
Interpretive Opportunities	6
RESULTS	7
Existing Interpretive Services	7
Customer Preferences	9
Interpretive Opportunities	12
DISCUSSION AND RECOMMENDATIONS	14
Audience	14
Program Goals	15
Interpretive Topics	15
Interpretive Media	15
Interpretive Sites	18
Funding	18
Monitoring	19
Recommendations	21
NORTH KAIBAB RANGER DISTRICT INTERPRETIVE SERVICES PROGRAM	23
Goals	23
Topics	23
Interpretive Sites	25
Implementation	32
Site Development Schedule	32
Personnel	35
Publicity	35
Funding and Partnerships	36
Monitoring	37
BIBLIOGRAPHY	38
APPENDIX	40
A. Jacob Lake Amphitheater and Forest Tours Questionnaire	40
B. Arizona's Kaibab Plateau Brochure	42
C. North Kaibab Recreation Opportunity Guide	43

EXECUTIVE SUMMARY

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Summary: The North Kaibab Ranger District is experiencing steady growth in recreational use due to visitors discovering the wide variety of available opportunities. An opportunity exists to provide visitors with a well-rounded interpretive services program to enhance their stay by providing information on recreation activities available and opportunities to learn about the history, culture, environment, and management of the District. Development of this program affords the Kaibab National Forest an opportunity to advance the Forest Service mission by explaining resource programs. Education may result in a better customer understanding of Forest Service programs.

The intent of this paper is to develop a comprehensive interpretive services plan for the North Kaibab Ranger District. The plan will be based on customer preferences of subject matter, opportunities for interpretation, and agency objectives of increasing visitors' knowledge and understanding of natural resource management and conservation.

A review of existing approaches to interpretive services planning was conducted by contacting FS - INFO and several Forest Service Regional Offices and researching the Kaibab National Forest Plan and the Forest Service Manual. Many approaches to planning an interpretive services program exist based on the literature review. The author selected a relatively simple three-step approach involving 1) interpretive services inventory, 2) plan preparation, and 3) development of an implementation schedule. Step 1 is discussed and analyzed in this paper. Steps 2 and 3 are the final product.

Information on existing interpretive services was based on the knowledge of the author. Customer preference information was gathered by reviewing questionnaires completed by participants in two existing interpretive programs, interviewing Visitor Center staff, Campground Hosts, volunteer interpreters, National Park Service interpreters, and guest registers. Information on interpretive opportunities was

collected by interviewing several of the above groups and agency resource specialists and researching the area's pre-history and history.

Analysis of this information indicates that 1) existing interpretive services are provided by several methods with partnerships proving to be an excellent means, 2) customers have a wide range of subject matter interests, and 3) numerous opportunities for interpretation exist. Discussion of these findings and additional information concerning program objectives, interpretive themes, media, sites, and funding that was gathered during literature review resulted in the following prioritized recommendations:

1) Implement an interpretive services program that provides opportunities for essentially every customer including those with physical disabilities.
2) Satisfy customer needs by providing quality interpretive services and facilities.
3) Approve the North Kaibab Ranger District Interpretive Services Program that is the end product of this paper.
4) Fund interpretive services from benefiting resource management programs with consideration given to establishing an umbrella account at the Forest level.
5) Foster existing partnerships with private sector and other public sector agencies and develop new ones to stretch available Federal funding.
6) Provide employees and volunteers with appropriate interpretive training.
7) Designate a team to plan site-specific interpretive projects for State Route 67 in partnership with Arizona Department of Transportation and the National Park Service.
8) Increase efforts to publicize interpretive services to our customers.
9) Develop an Environmental Education program designed to reach out to local schools and civic groups.
10) Prepare a planning guide, including the Recreation Opportunity Spectrum, for developing interpretive projects.
11) Explore opportunities to employ interns with an interest in interpretation who are attending universities with recreation and park management programs.
12) Evaluate the possibility of reciprocal interpretive programs with Grand Canyon National Park and the Bureau of Land Management that would allow interpreters from these agencies to present programs, jointly or independently, at the other agencies' facilities.
13) Request Southwest Natural and Cultural Heritage Association to prepare and print several brochures in German and French in addition to English.
14) Encourage and support development of a National level program to conduct motor tours and evening campfire interpretive programs at selected Forest Service units.

INTRODUCTION

The North Kaibab Ranger District is located in an extremely scenic region of the United States commonly referred to as the Grand Circle. Within the Grand Circle are four National Forests, two National Recreation Areas, seven National Parks, including Zion, Bryce, and Grand Canyon, seven National Monuments, millions of acres of Bureau of Land Management land, and several State parks. Tourism is the major industry in the region generating about $200,000,000 each year.(1) An estimated five million tourists visit the region annually. Annual visitation is increasing at 7.2%.(2)

Approximately 95% of the visitors are United States citizens, primarily residents of California, Colorado, Utah, Arizona, and Nevada. Foreign travelers comprise the remaining 5%.(2) This figure may increase if projections by the U.S. Travel and Tourism Administration prove accurate. This Department of Commerce agency estimates that nationally a record 38.3 million foreign travelers visited the United States in 1989 and visitation could approach 67 million by the year 2000. Utah, which includes most of the Grand Circle, ranked third in 1989 in growth rate of foreign visitors.(3)

Annual visitation to the North Kaibab Ranger District is about 500,000 visitors and is increasing 10% each year. The majority of District visitors are southern Arizona residents seeking relief from the scorching heat of the Sonoran Desert.(4) Daytime summer temperatures in Phoenix and Tucson are typically 25 - 30 degrees F. higher than in the cool forests of the North Kaibab. Many southern Arizona residents make several trips annually to the North Kaibab. Based on visitor registration logs and personal observations by

District recreation employees, foreign travelers accounted for roughly 3% of total visitation for the past five years. The North Rim of Grand Canyon National Park, situated south of the District, records about 350,000 visitors annually with growth averaging 7.3% for the 1987 - 1989 period.(5) People are discovering the wide array of recreation opportunities provided by the North Rim area and the District in particular. Our customers expect us to provide recreation information and educational opportunities. These expectations will increase as visitation rises.

Situation Statement

An opportunity exists to provide visitors with a well-rounded interpretive services program to enhance their stay by providing information on recreation activities available and opportunities to learn about the history, culture, environment, and management of the District. Likewise, an interpretive services program affords the Kaibab National Forest an opportunity to advance the Forest Service mission by explaining resource programs. Education may result in better customer understanding of Forest Service programs.

Statement of Purpose

The objectives of this paper are to 1) conduct a literature review of approaches to interpretive services planning, 2) conduct an interpretive inventory of existing interpretive services, customers, and interpretive opportunities for the North Kaibab Ranger District, 3) analyze findings and make prioritized recommendations for interpretive services, 4) prepare an interpretive services program (plan) and implementation schedule, and 5) produce a video describing the District interpretive services program.

LITERATURE REVIEW

A literature review of approaches to interpretive services planning was conducted by contacting FS-INFO and Forest Service Regional Offices for the Intermountain Region and the Pacific Northwest Region and by reviewing the Kaibab National Forest Plan and the Forest Service Manual.

FS-INFO is the library branch of Rocky Mountain Forest and Range Experiment Station. The author requested that a computer-based literature search be conducted to locate documents discussing interpretive services planning and programs. FS-INFO supplied a listing of documents available in either it's library or those of cooperating universities. Research and information papers used are contained in Bibliography.

Intermountain and Pacific Northwest Regional Offices supplied information concerning interpretive services programs at the Regional and Forest level. Phil Johnson in the Intermountain Regional Office was particularly helpful. He provided copies of the Region's "Interpretive Services Initiative and Implementation Schedule for 1990" and the "Uinta National Forest Interpretive Services Implementation Schedule." Jim Pollock in the Pacific Northwest Regional Office provided a copy of "Interpretation and Information for the Mather Memorial Parkway" which is representative of the approach that many National Forests in the Pacific Northwest Region are using to develop interpretive plans.

The Kaibab National Forest Plan establishes interpretive services goals; however, specific guidelines for program development are lacking. Districts

are encouraged to review available approaches to interpretive services planning and independently select the most appropriate approach.

Forest Service Manual 2390 contains policy statements and objectives for interpretive services. A broad planning process is provided; however, specific methods are not discussed.

METHODS

Numerous approaches to interpretive services planning exist. (6) Based on the literature reviewed, the author decided to follow a relatively simple three-step approach that is used internationally to develop interpretive services programs. (7) The process involves 1) conducting an interpretive inventory, 2) preparing the program or plan, and 3) developing an implementation schedule. Step 1 will be discussed in this and subsequent sections. Steps 2 and 3 will be the final product of this paper.

Interpretive Inventory

An interpretive inventory generally consists of information in the following categories:

Existing Interpretive Services

Audience (Customers)

Interpretive Opportunities

Existing Interpretive Services

This information was based on the author's personal knowledge of existing interpretive services.

Audience (Customers)

To satisfy customers it is necessary to understand their preferences. (8) Then, a meaningful program can be designed to provide the customer with an enjoyable, satisfying experience. The author gathered information on customer preferences relative to interpretation and information by:

A. Reviewing informal questionnaires completed by participants in two existing interpretive programs on the North Kaibab District. Questionnaires from 2,920 participants between 1985 - 1989 were analyzed. A recreation service partner prepares and distributes the forms to provide feedback on topics and the service provided. To the extent practicable, modifications to the services are made to reflect customer preferences. (Sample questionnaires are in Appendix A.)

B. Contacting the North Kaibab Visitor Center staff to obtain their perspective on what customers desire. The staff have six years experience and annually contact 40,000 forest visitors.

C. Contacting Campground Hosts to ascertain the types of information and questions visitors seek. Four of these volunteers have three seasons of experience in a specific campground. Two volunteers have one season of experience in a specific campground.

D. Reviewing guest registers at the District office and Visitor Center to obtain customer comments and remarks.

E. Contacting volunteers conducting interpretive programs each evening at Jacob Lake Campground and guiding motor tours of the District to obtain their thoughts and perceptions as to visitor preferences.

F. Contacting the North Rim Chief Interpreter with Grand Canyon National Park to ascertain subjects that visitors seem to be most interested in learning more about.

Interpretive Opportunities

An integral part of any marketing effort is identifying what products and services an organization has to offer potential customers. (8,9) This knowledge gives the organization a basis on which to decide whether to respond to customer demand, to create a demand, or to demarket a demand for a particular product or service. (8) To gather this information, the author employed the following methods:

A. Solicited ideas from Visitor Center staff, Campground Hosts, volunteers engaged in interpretive programs, and recreation service partners engaged in providing commercially guided, interpretive tours.

B. Discussed existing and potential opportunities with District resource staff and Supervisor's Office specialists in a wide variety of disciplines.

C. Reviewed research papers documenting the history and pre-history of the

North Kaibab area and Arizona Strip, which is geographically defined as that portion of Arizona north of the Colorado River.

D. Relied on the author's personal knowledge which is based on thirteen years experience on the North Kaibab District.

RESULTS

Existing Interpretive Services

The North Kaibab District provides interpretive services through use of employees, partnerships, and commercial operations.

A. Employees distribute information to customers at the District office and field locations. The District has an active Environmental Education program with local school systems; however, the program is lacking continuity in purpose. Involvement in community events, such as county fairs and parades, has provided the District with opportunities to explain the Forest Service mission.

B. Partnerships are proving to be excellent methods of providing interpretive services. Since 1985, the District has cooperated with Kaibab Forest Products, a local forest products company, in operating the North Kaibab Visitor Center located at Jacob Lake, Arizona. The Visitor Center is situated at the junction of U.S. Highway 89A and Arizona Route 67 which serves as the primary access route to the North Rim of Grand Canyon National Park. Due to it's strategic position, virtually all of the 350,000 annual visitors to the North Rim must

pass the Visitor Center. About 12% stop at the facility, but this figure should increase after a new, larger facility is constructed in summer, 1990. Arizona Route 67 is designated as a scenic highway (Kaibab Plateau - North Rim Parkway) by the State of Arizona and under the National Forest Scenic Byways Program. The highway is presently under phased re-construction, a process that will take perhaps 8 years to complete, to improve alignment and provide pull-outs. The Forest Service provides the facilities and utilities while Kaibab Forest Products pays staff salaries and contributes funds for the preparation of a District interpretive brochure that is widely distributed to current and potential customers. (A brochure is in Appendix B.)

Southwest Natural and Cultural Heritage Association (SNCHA), an interpretive association, provides educational and informational materials to customers and financially supports Forest Service interpretive projects. Recreative Ink, an Arizona based firm specializing in recreation brochure development, and the above two partners joined with Kaibab National Forest in preparing the North Kaibab District Recreation Opportunity Guide. (A copy is in Appendix C.) These partners are also involved in designing the new North Kaibab Visitor Center.

Kaibab Forest Products is involved with two other innovative partnerships. 1) The company contributed materials and labor to construct an amphitheater in 1987 at the Forest Service campground at Jacob Lake. Interpretive programs, financed by the company, are presented by a volunteer each evening during the summer. Program content includes forest conservation and management, timber harvesting practices, wildlife, and vegetation. 2) Since 1985 the Forest Service and Kaibab Forest Products have cooperatively provided free motor tours

of the North Kaibab District. The company pays guide salaries and the Forest Service provides transportation. Using the Visitor Center as a terminal, the tours operate twice daily between mid-May and mid-September. Tour content includes visiting historic sites and active and completed forest management projects.

C. Commercial operations are providing customers with several interpretive opportunities. Canyoneers, Inc., an Arizona outdoor recreation firm, is offering self-discovery, interpretive hikes into two wilderness areas on the District and is presently expanding winter recreation services to include interpretation along nordic ski trails. Future development plans may specify a substantial increase in interpretive services.

Customer Preferences

About 13,000 forest visitors have participated in the Jacob Lake Amphitheater interpretive program during 1988 - 1989. Participant questionnaires indicate a wide range of subject matter interests. In descending order, the more popular topics include wildlife (Kaibab squirrel, mountain lion, birds), cultural resources (pioneer settlers, Native Americans, John Wesley Powell), forest vegetation identification, forest management and ecology (timber harvest practices, old growth forests), and recreation opportunities. Comments that often appear include 1) the need for the Forest Service to better advertise the program, 2) the desire to have this type of program available on other National Forests, and 3) the effectiveness of the entertaining, personal presentation by the interpreter. The interpreter relates that he receives many questions on wildlife, history, and forest vegetation identification. This compares favorably with questionnaire data. Retired couples and families with children

between the ages of 8 and 15 comprise the majority of the audience (Vee Bruhn, personal communication, 1989).

Since 1985, approximately 5,000 forest visitors have participated in the free motor tours of the District. Foreign visitors account for about 4% of all participants and numbers are increasing annually. Topics most often listed on questionnaires include wildlife, timber management practices, identification of forest vegetation, area history, forest ecology, insects and diseases of trees, Forest Service management activities, geology, and hydrology. The list is similar to that for the amphitheater program, but covers a wider range of subjects and indicates a greater interest in National Forest management practices. This is probably due to the tour content which emphasizes forest conservation and management and the tour format which allows participants to physically visit forest management projects. Tour guides state that participants ask many questions about wildlife and express a desire to view animals. There are numerous questions regarding National Forest management practices, especially logging. Few visitors question the need for harvesting; however, many are curious about how logging impacts wildlife and other forest resources. Tour participants are primarily adults over 55 years of age. Few families with children participate. This may be due to the 2.5 hour length which may be too long for younger children (Paul McCormick, Charlie Glaspie, personal communication, 1989). It should be noted that both tour guides are retired Forest Service employees who worked on the District.

The comment that appears most often on questionnaires asks why the Forest Service does not nationally implement the guided tour program. This may be an excellent means of educating our customers and helping them understand the

agency's mission. Negative criticism focused on the lack of local advertising for the tour. Increasing publicity would increase participation. It is obvious from the comments that participants appreciate tour guides that are knowledgeable, experienced, personable, and able to communicate well. Perhaps, the similarity in ages of the guides and the majority of the participants promotes better communication.

Staff at the North Kaibab Visitor Center report that many visitors are interested in wildlife, especially the Kaibab squirrel, pre-history and history of the Jacob Lake area, identification of tree species, and forest insects and diseases. Numerous questions concerning recreational opportunities, camping regulations, and information about National Park scenic viewpoints and facilities are received. Visitors are about evenly split between retired adults and families with children (Jean Hillen, personal communication, 1989). Based on guest registers, about 5% of all visitors in 1989 were from foreign countries (38 foreign countries represented). Although most of the foreign visitors speak English, many ask if brochures in German or French are available (John Hillen, personal communication, 1989).

Campground Hosts state that most of the questions asked concern camping regulations; however, some people are interested in vegetation identification and wildlife viewing opportunities. (Walter and Louise Nero, Irwin and Betty Harwood, Hal and Ardelle Northup, personal communication, 1989).

District office guest registers did not provide much useful information. This may be due to the receptionist position being vacant. Normally, this employee would encourage visitors to register. Visitor Center staff give each customer

a sense of being "special" by asking each to register.

Visitors to Grand Canyon National Park (GCNP) are primarily interested in geology, wildlife, vegetation, and the Colorado River. The GCNP North Rim Interpretive Staff Unit presents programs on these subjects at several locations daily. An effort is made to interpret the variation in vegetation and wildlife between the North Rim and South Rim. Although major scenic viewpoints are signed and some special features identified, overall interpretive signing is lacking. A formal interpretive plan has not been prepared (Dale Schmidt, personal communication, 1990).

Interpretive Opportunities

A review of research papers discussing the pre-history and history of the North Kaibab and surrounding vicinity indicates that abundant opportunities for interpretation exist. The District has a fascinating history that can be presented to visitors under several themes (Marietta Davenport, personal communication, 1990). Interesting subjects include Native American rock art, early exploration by Spanish missionaries, mapping of the area by John Wesley Powell, pioneer settlement, forest conservation in the 1890 - 1920 period, the difficulty of travelling to the North Rim prior to the early 1930's, and development of the mineral, grazing, and timber resources.

Resource specialists cite several good opportunities for interpreting geology and hydrology. Themes might include the lack of running streams due to soil permeability and the reasons "springs" exist, development of sinkholes and small lakes characteristic of areas representing Karst topography, development of alpine meadows (parks), and the geologic evolution of the Grand Staircase, a

series of stratified, rock formations in southern Utah, that is best seen from the North Kaibab (Janet Travis, personal communication, 1990).

One of the better interpretive opportunities is wildlife. About 90% of the District is in Grand Canyon National Game Preserve established by President Theodore Roosevelt in 1906. The Kaibab deer herd is widely studied by wildlife management students as a classic example of the need to maintain a balance between populations of predators and prey. The resident population of goshawks is believed to be the largest in the Southwest and several other raptors inhabit the District (Noel Walsh, personal communication, 1990). Several species of plants and animals are unique to the North Rim. Examples include the Kaibab squirrel and Kaibab paintbrush. About 380 species of animals inhabit the District (Jerry Berry, personal communication, 1989).
Visitors would probably find many of these species interesting to learn about. Timber management personnel believe that interpretation of tree species, other vegetation, and forest succession would be interesting to visitors (Regis Cassidy, personal communication, 1989). Interpretation of fire ecology may also be of interest (Mark Baron, personal communication, 1989).

Responses from Visitor Center staff, volunteer interpreters involved with motor tours and amphitheater programs, Campground Hosts, and recreation service partners covered essentially the same themes. Development of these themes are possible in several locations on the District. Two excellent opportunities are 1) the new Visitor Center which will have ample floor space for exhibits plus an area suitable for viewing films and videos and 2) along Arizona 67 which will have pull-outs constructed to provide good locations for interpretive signs (Steve Martinet, personal communication, 1989).

DISCUSSION AND RECOMMENDATIONS

The existing interpretive services coupled with abundant opportunities for interpretation of cultural resources, natural history, biological and zoological resources, and forest management activities establishes a good foundation on which to build an effective interpretive services program.

Audience

Audiences are characterized by a wide range of interests, knowledges, and physical abilities. (10) An interpretive services program should be designed to appeal to diverse audiences by providing opportunities for essentially every customer. Information collected on District customers compares favorably with that contained in the Five County Association of Governments tourism study. The latter study concluded that about 60% of area tourists were adults travelling without children and the remaining 40% were adults with children. (2) We also know that foreign visitors comprise a small (3%), but growing portion of District customers.

Knowledge of disabled populations visiting the area is lacking; however, we do know that nationally more than 14% of non-institutionalized citizens have some form of physical disability and an additional 12% have visual or hearing impairments. (11) We should assume that these special populations would participate more if opportunities were available. Efforts need to be directed at providing total access initially with the long-term goal of providing program accessibility which is defined as programs and activities designed to enable a variety of disabled persons to fully participate and have fulfilling experiences. (12) The goal is to mainstream the disabled with the nondisabled

by providing some programs suitable for both populations.

Program Goals

From a visitor expectation perspective interpretive services programs generally have the following characteristics: 1) the program is intended to provide enjoyable, quality experiences for visitors, 2) visitors are provided with opportunities to learn about and experience nature, and 3) these experiences are provided in an atmosphere that is relaxed and entertaining. (13, 14) If these visitor expectations are achieved, the result is a satisfied customer. The District program should be geared toward customer satisfaction and communicating information and knowledge that customers want. Customers who are accurately informed about forest ecology and the benefits of forest management are better able to develop their opinions and react intelligently to issues concerning natural resource use and management.

Interpretive Topics

Based on the research conducted, the interpretive services program should focus on four major topics. These are 1) natural resources, 2) cultural resources, 3) management, and 4) general information. Themes will be developed in the actual plan. Many of the cultural resource themes were derived from research papers documenting the pre-history and history of the North Kaibab and Arizona Strip. (15, 16)

Interpretive Media

Selection of the interpretive media to implement the program is as important as the determination of the themes. (7) Sometimes the media that would be most effective to interpret a subject cannot be used due to lack of funding, trained

personnel, climatic considerations, and requirements of the customer. Media under consideration include: 1) personal services (lectures, demonstrations, other contacts), 2) written (signs, brochures, exhibits), and 3) audio-visual presentations (slides, photographs, films, videos, recorded messages, radio, television). Media should be compatible with the Recreation Opportunity Spectrum class for the interpretive site.

Personal services media allow the interpreter to communicate directly with the audience. This facilitates the learning experience. However, this media requires trained personnel possessing knowledge of the subject. Interpreters with experience and an entertaining style are generally more effective. (7) Demonstrations (technical and living history) are excellent methods of interpretation because audience participation heightens the visitor's experience. (10, 17)

Written media probably make more visitor contacts than all other media combined. Signs allow visitors to proceed at their own pace and are relatively inexpensive compared to trained personnel salaries. Text should be short, simple, interesting, clear enough to be understood, and communicate information worth knowing. Trailside signs should be less than 50 words. Signs should be designed by an experienced graphic artist and the text written by knowledgeable resource specialists. Maintenance costs should be a factor in selection of materials for sign fabrication. (18) Brochures are probably more effective than signs because the interpretation can be more detailed and the visitor can take home the brochure to refresh his memory and serve as a souvenir. They are often used in areas with foreign visitors to supplement signing. Potential visitors can obtain a copy to serve as a planning tool prior to visiting the

site. They can be expensive to prepare, print, and distribute. Interpretive associations frequently provide brochures for sale or request donations. A recent study of Forest Service brochures recommended that more photographs be included of minorities, women, the elderly, people engaged in recreation pursuits, undomesticated animals, and resource management projects. These proposals are intended to result in brochures more representative of the Forest Service mission and image. (19)

Exhibits are defined as dioramas, maps, diagrams, artifacts, and specimens. Some contain explanatory text. Visitors find exhibits more interesting than other media because exhibits usually generate questions which cause the visitor to seek additional knowledge. They can be expensive to plan and construction often requires specialized talent. Use of exhibits should be limited to topics of great interest.

Quality audio-visual presentations are quite effective. Expense varies depending on the type of audio-visual presentation. Slide presentations are inexpensive to produce and can easily be updated. Local films and videos can be expensive to produce, but open market purchases are reasonable. Videos and films less than six minutes in length are usually viewed in their entirety. Historic photographs draw much attention from visitors. Recorded messages should be less than three minutes in length to hold the listener's attention. Longer versions are not as popular. (17) Radio can be an effective means of informing visitors of interpretive activities and recreation opportunities. Television provides an effective method of communicating information to potential visitors. Local networks are usually receptive to airing interpretive films and videos (Jim Schreiner, personal communication, 1989).

Interpretive Sites

Major interpretive sites are defined as locations that are managed to provide a wide range of interpretive services. North Kaibab Visitor Center, Jacob Lake Amphitheater, State Route 67, and motor tours can be classified as major interpretive sites. Minor interpretive sites are locations that offer a limited range of interpretive services. Existing minor interpretive sites are LeFevre Overlook, Jacob Lake Campground Nature Trail, and wayside signs. Trails place visitors in a natural setting and provide memorable experiences. Self-guided trails provide an opportunity for the visitor to learn at his or her own pace while guided trails are more suited for group participation. (18) The District office is currently classified as an information site, but could be modified to serve as an administrative interpretive site by providing displays and information.

Funding

Within the Forest Service, interpretation should be funded from benefiting resource management programs. In the past, recreation management was primarily responsible for funding all interpretive programs. Pooling of funds will permit more to be accomplished. For example, pooled funds would allow a multiple-use exhibit to be prepared or perhaps hire additional interpretive staff for the Visitor Center. The Arizona Recreation Initiative should provide about $45,000,000 between 1990 and 1993 to accelerate recreation program implementation on National Forests in Arizona. A portion of these funds will be allocated to upgrading interpretive services (Dennis Lund, personal communication, 1990).

Existing partnerships should be continued and new ones established. Favorable

visibility results for the Forest Service and the partner. The partnership with Kaibab Forest Products has been extremely beneficial for both parties. Of greater importance is the fact that our customers have been provided a quality service that would otherwise not be provided due to lack of agency funding. The District should expand involvement with SNCHA to provide our customers with more educational materials and interpretive opportunities. The interpretive association could publish many brochures that would enhance visitors' learning experiences. Recreative Ink continues to work with Kaibab National Forest in preparing and publishing recreation brochures at a reasonable cost. Canyoneers, Inc. has indicated a willingness to provide interpretive services both commercially and as an integral part of their proposal to develop a first class, year round lodge in DeMotte Park. Efforts should be undertaken to encourage Jacob Lake Inn to provide interpretive services. Signing of State Route 67 and U.S. Highway 89A to point out interpretive sites should be done in partnership with the Arizona Department of Transportation. The National Park Service should be considered a partner in the signing of State Route 67 and in any interpretive services planned for the road. The Arizona Archeological Society has expressed a desire to participate in preparing exhibits and brochures as well as outreach programs to the local communities.

Monitoring

Monitoring and evaluation are important components of interpretive services programs. (20, 21, 22) Evaluation of interpretation is needed by public agencies to 1) demonstrate cost-effectiveness of the program especially during austere budgets when public awareness of government spending is high, 2) show the benefits of an interpretive services program to the agency in order to more effectively compete for limited funding within the agency, 3) ensure that

interpretive objectives reflect recent changes in agency policy or management, and 4) provide feedback about individual interpretive projects and the entire program. (21)

Major areas on which evaluations focus include program planning, program monitoring, economic efficiency, and impact assessment. Program planning evaluations are conducted before a program is implemented to determine if the proposed program is needed. Program monitoring evaluations are conducted during implementation of a program to ascertain whether the program is contacting target audiences and if the intended services are provided. Program content, media, and scheduling are often evaluated. Economic efficiency evaluations are used to demonstrate cost-effectiveness of interpretive programs. Benefits of interpretive programs can be difficult to measure, but methods do exist. (23) Impact assessments determine whether a program has achieved intended purposes or has produced unintended outcomes. Economic efficiency and impact assessments are conducted after interpretive programs are implemented. (21)

Evaluation methods include program review by experts, observation of behavior traces (litter left on a trail, finger prints on exhibit glass, etc.), self-testing devices, audience behavior observation <u>during</u> activities, questionnaires, formal and informal reviews, and audience behavior observation (responses) <u>after</u> activities. Precision, cost of data collection, and burden on staff are higher for the last three methods than the first four methods. (21) Generally, evaluations are directed at program monitoring and impact assessments with less effort given to economic efficiency. (21)

Recommendations

Prioritized recommendations based on the above discussion include the following:

1) Implement an interpretive services program that provides opportunities for essentially every customer including those with physical disabilities.

2) Satisfy customer needs by providing quality interpretive services and facilities.

3) Approve the North Kaibab Ranger District Interpretive Services Program that is the end product of this paper.

4) Fund interpretive services from benefiting resource management programs with consideration given to establishing an umbrella account at the Forest level.

5) Foster existing partnerships with private sector and other public sector agencies and develop new ones to stretch available Federal funding.

6) Provide employees and volunteers with appropriate interpretive training.

7) Designate a team to plan site-specific interpretive projects for State Route 67 in partnership with Arizona Department of Transportation and the National Park Service.

8) Increase efforts to publicize interpretive services to our customers.

9) Develop an Environmental Education program designed to reach out to local schools and civic groups.

10) Prepare a planning guide, including the Recreation Opportunity Spectrum, for developing interpretive projects.

11) Explore opportunities to employ interns with an interest in interpretation who are attending universities with recreation and park management programs.

12) Evaluate the possibility of reciprocal interpretive programs with Grand Canyon National Park and the Bureau of Land Management that would allow interpreters from these agencies to present programs, jointly or independently, at the other agencies' facilities.

13) Request Southwest Natural and Cultural Heritage Association to prepare and print several brochures in German and French in addition to English.

14) Encourage and support development of a National level program to conduct motor tours and evening campfire interpretive programs at selected Forest Service units.

INTERPRETIVE SERVICES PROGRAM
NORTH KAIBAB RANGER DISTRICT

A. Goals

1. Increase customer satisfaction and enjoyment by providing a quality interpretive services program (including general information).

2. Improve customer service by achieving excellence in customer contacts with the goal of having customers return.

3. Promote customer understanding of Forest Service mission and programs.

4. Increase customer awareness and appreciation of natural and cultural resources and forest management (past and present activities).

5. Develop a conservation ethic in customers by providing opportunities to learn about and experience nature.

6. Provide opportunities to all of our customers including non-traditional users of the National Forests.

7. Encourage customers to explore and experience the entire District rather than areas of concentrated use.

B. Topics

Four topics will be emphasized: 1) natural resources, 2) cultural resources, 3) forest management, and 4) general information.

1. Natural Resources

a. Wildlife Themes
   1. Grand Canyon National Game Preserve designation and link with President Theodore Roosevelt.
   2. Kaibab squirrel - uniqueness, habitat, and management.
   3. Kaibab deer herd - history and management.
   4. Raptors of the Kaibab Plateau - species, habitat, and management.
   5. Mountain lions - historical management and habitat.
   6. North Canyon Apache Trout - species and management.
   7. Dead trees - snag management and importance to wildlife.
   8. Diversity of species - the Kaibab Plateau is home to about 400 species of wildlife.
   9. Buffalo herd - species and management.
   10. Threatened, Endangered, and Sensitive wildlife species - past actions that resulted in present situation, current management, and programs designed to protect the species.

b. Geology Themes
   1. Development of Karst topography - why, how, and where (focus on lakes and sinkholes.
   2. Kaibab limestone and it's effect on groundwater recharge (discuss lack of live streams).
   3. Development of alpine parks (meadows) - why they form and succession.
   4. Management of shallow, rocky soils that are susceptible to timber "blowdown" when saturated.
   5. Geologic evolution of southern Utah's Grand Staircase - age and geologic processes.

c. Vegetation Themes
   1. Identification of tree species and characteristics of each.
   2. Describe forest succession (seral to climax stages) including the fire ecology and value/importance of old growth forests.
   3. Link vegetative diversity to elevation ranges (5000 feet - 9200 feet).
   4. Growth and life cycle of trees - explain/focus on ponderosa pine.
   5. Explain the process causing aspen leaves to change color.
   6. Identify and explain the diseases of trees and insects and management actions to control (focus on dwarf mistletoe and bark beetles).
   7. Wildflowers of the Kaibab Plateau - identify and explain habitats.
   8. Unique plants of the Kaibab Plateau - identify and explain why they occur only here and protective measures.

2. Cultural Resource

a. Pre-history Themes
   1. Native American civilizations - society, lifestyles, where they lived, link to present day tribes, and religion.
   2. Rock art.
   3. Kaibab - discuss origin and definition.

b. History Themes
   1. Dominguez - Escalante Expedition - when and why.
   2. Old Spanish Trail - development and use.
   3. Mapping of the area - John Wesley Powell's expeditions.
   4. Pioneer settlement - Mormon influence and Jacob Hamblin's influence.
   5. Development of ranching and livestock industry.
   6. Early attempts at farming the North Kaibab.
   7. Development of mining industry in the early 1900's.
   8. Development of lumber industry - early sawmills and expansion after World War II.

3. Forest Management Themes

a. Grand Canyon Forest Preserve establishment in 1893 - mission/purpose.
b. Early management of the Forest - discuss Jacob Lake Ranger Station and the daily life of rangers in 1910, timber survey of 1910, and range management in 1909.
c. Forest Service Mission - explain what the agency does and why.
d. Multiple-use Management philosophy - explain what this is and how the Forest Service and National Park Service differ.

e. Describe management practices for timber, wildlife, range, watershed, soils, fire, and recreation - explain interrelationships of resources.

4. General Information

a. Camping - sites, regulations, facilities, services, and availability.
b. Campfires - permissible under certain conditions.
c. Lodging availability - Jacob Lake, Kaibab Lodge, North Rim.
d. Hiking trails - location, distance, difficulty, scenery, water sources.
e. Fuelwood - permit purchase, availability, where to cut.
f. Mountain biking - available opportunities.
g. Pleasure driving - roads and conditions.
h. Grand Canyon - better places to view, scenic vistas.

C. Interpretive Sites

Recreation Opportunity Spectrum (ROS) class, interpretive themes, and media prescription for each site will be described in this section. Media prescriptions are subject to change as individual projects are developed in detail and should be compatible with ROS class.

1. Major Sites

The District has four sites that are managed to provide a wide range of interpretive services. These include the North Kaibab Visitor Center, Jacob Lake Amphitheater, State Route 67, and motor tours.

2. Minor Sites

These sites are managed to provide a limited range of interpretive services. Most District interpretive sites are in this category. LeFevre Overlook, Jacob Lake Campground Nature Trail, other trails, and wayside sites are included.

3. Information Sites

The District office provides general orientation, directions, and other information to customers. Limited interpretive displays are currently in place.

4. Off-site

Interpretive sites in this category are actually programs and information presented at locations other than the District. These efforts are undertaken to broaden contact with our customers. Doing so helps the agency better understand customer needs and affords an opportunity for the Forest Service to relate it's mission to it's customers.

Recreation Opportunity Spectrum can be used to define the appropriate level of interpretive services provided at a site. Interpretive project planning should incorporate ROS principles. These were developed by Jim Pollock, Interpretive Specialist, in the Pacific Northwest Regional Office.

Interpretation in the Recreation Opportunity Spectrum

Primitive (P)
- self-discovery; sharing with close friends and family, limited social sharing with others; rely on knowledge
- no site facilities

Semi-Primitive Nonmotorized (SP)
- self-discovery augmented by books, guides and maps; some social sharing with close friends, family and others; rely on knowledge and publications
- no site facilities

Semi-Primitive Motorized (SPM)
- self-discovery augmented by books, guides and maps; some social sharing with close friends, family and others; rely on knowledge and publications
- no site facilities

Roaded Modified (RM)
- combination of self-discovery and unstructured contact with Forest Service employees (usually not interpreters); some Forest Service publications
- some simple on-site facilities such as signs, numbered posts, simple viewpoints using native, rustic materials

Roaded Natural (RN)
- limited, structured, seasonal contact with Forest Service interpreters conducting walks and talks in natural settings and in small groups; many Forest Service publications.
- a variety of simple to moderately complex structures and facilities such as interpretive trails, overlooks, amphitheaters, boardwalks using native and native-like materials

Rural (R)
- frequent structured and unstructured seasonal contact with Forest Service interpreters conducting guided walks and talks in natural-like settings and in small to medium size groups; partnerships with resorts, tours, living history; many Forest Service and other publications
- a variety of complex structures and facilites such as kiosks, contact stations, interpretive trails, small visitor centers, exhibits, overlooks, amphitheaters using refined, native-like materials

Urban (U)
- almost constant structured contact usually throughout the year with Forest Service interpreters conducting walks, talks, staffing visitor desks and sales areas in created settings and in medium to large size groups; partnerships with resorts, tours, associations, friends groups; many publications by Forest Service and others
- a wide variety of complex facilities such as visitor centers, complex exhibits, display structures, large amphitheaters, bookstores using highly refined materials and technology.

Table 1. Interpretive Sites

INTERPRETIVE SITE (AND ROS CLASS)	THEMES	INTERPRETIVE MEDIA
Major Sites		
North Kaibab Visitor Center (R)	Grand Canyon National Game Preserve Designation	On-site plaque/exhibit
	Kaibab Squirrel	Exhibit
	Kaibab Deer Herd/Management	Exhibit
	Buffalo Herd/Management	Exhibit
	Snags - Value/Management	Exhibit
	Wildlife Species Diversity	Exhibit/Brochure
	Karst Topography Kaibab Limestone/Water	Exhibit
	Tree Species Identification	Living Exhibit/Brochure
	Forest Succession	Exhibit
	Tree Growth and Life Cycle	Exhibit
	Unique Plants (Kaibab Plateau)	Exhibit
	Native American Civilization "Kaibab" - Definition	Exhibit
	Lumber Industry Development	Exhibit/Brochure
	Forest Service Mission Multiple-Use Philosophy	Exhibit/Brochure A-V
	Resource Management Practices	Exhibit/Brochure
	Seasons of the North Kaibab	A-V
	General Information	Personal Services/Brochures
Jacob Lake Amphitheater (RN)	Raptors of the North Kaibab	Personal Services/A-V
	Mountain Lions	Personal Services/A-V
	Wildlife Species Diversity Threatened, Endangered, and Sensitive Species	Personal Services/A-V

INTERPRETIVE SITE (AND ROS CLASS)	THEMES	INTERPRETIVE MEDIA
	Wildflowers of the Kaibab Plateau	Personal Services/A-V
	Tree Diseases and Insects	Personal Services/Brochure/A-V
	General History of Vicinity	Personal Services/A-V
	Forest Service Mission and Multiple-Use Philosophy	Personal Services/A-V
	Resource Management Practices	Personal Services/A-V
Motor Tours (RN)	Resource Management Practices	Personal Services/Brochure
	Karst Topography/Water (FR 217 Sinkhole)	Personal Services/Sign
	History (Three Lakes Cabin) (Jacob Lake Ranger Station)	Personal Services/Sign
	Tree Species Identification Forest Succession	Personal Services
	General Wildlife	Personal Services
	Forest Service Mission and Multiple-Use Philosophy	Personal Services/Brochure
State Route 67 (RN)	General Orientation Scenic Byway Designation	Audio Cassette Sign
	Karst Topography/Water (VT Lake, Deer Lake)	Sign
	Development of Alpine Parks (Pleasant Valley/DeMotte Park)	Sign
	Vegetation Identification and Diversity (Several spots)	Sign
	Wildflowers (Pleasant Valley)	Sign
	Aspen (Fall Colors) (Crane Lake/Pleasant Valley)	Sign
	Development of Road to North Rim by Forest Service	Sign
	Pioneer Settlement, Early Farming and Ranching (Kaibab Lodge Area), Aspen Graffiti	Sign

INTERPRETIVE SITE (AND ROS CLASS)	THEMES	INTERPRETIVE MEDIA
	DeMotte Park History	Sign
	Early Forest Management (Jacob Lake Ranger Station)	Living History/Sign
	Forest Fire Detection (Jacob Lake Tower), Lookout Trees	Sign
	Management Practices (Develop Several Sites)	Sign
Minor Sites		
LeFevre Overlook (RN)	National Game Preserve Designation	Sign
	Geologic Evolution of "Grand Staircase"	Sign
	Dominguez-Escalante Expedition Old Spanish Trail	Sign
	Woodland Vegetation and Native American Habitation	Self-guided trail with Brochures
	Geographic Orientation	Sign
Jacob Lake Nature Trail (Campground) (RN)	Vegetation Identification Forest Diseases/Insects (Dwarf mistletoe/Bark beetles)	Self-guided trail with Signs and Brochures
Warm Springs Area (RN)	Development of Mining Industry (Ryan and FR 461 Mining Camp)	Sign
Snake Gulch (SP)	Native American Rock Art Preservation of Resource	Brochure and Development of A-V for Off-site Use
Big Springs Area (National Register of Historic Places) (RN)	Lumber Industry Development Early Ranching, Use by John W. Powell and Jacob Hamblin	Sign/Brochure
VT Blowdown (RN)	Soils and Geology (Windthrown Timber)	Sign

INTERPRETIVE SITE (AND ROS CLASS)	THEMES	INTERPRETIVE MEDIA
Jacob Lake Ranger Station (National Register of Historic Places) (R)	Early Forest Management by Forest Service Jacob Lake History	Living History/Sign/ Brochure/Exhibit Sign
Three Lakes Cabin (RN)	Early Livestock Industry	Sign
Brow Monument (National Register of Historic Places) (RN)	Early Mapping of Area by J.W. Powell (Triangulation Station)	Sign (develop trail to site)
Brink Monument (RN)	(Triangulation Station)	Sign
Total Access Nature Trail (Jacob Lake) (RN)	Forest Environment	Self-guided trail with Signs
Jacob Lake RV Park/ Inn Nature Trail (RN)	Identification of Forest Vegetation	Self-guided trail with Signs
East Rim Viewpoint (RN)	Wilderness, Prehistoric Hunters	Sign
Paria Overlook (RN)	Dominguez-Escalante Expedition	Sign
Jumpup/Sowats Cabin (RN)	Early Forest Service Wildlife Management	Sign
Navajo Trail/ Houserock Pueblo (SP/RN)	Historic Use by Native Americans and Anglos, Pueblo Site, General Scenery	Signs at trailheads
Big Saddle/Quaking Aspen Springs (RN)	Historic Use as Hunting Camp, General Scenery	Signs
Kaibab Plateau Trail (RN)	Forest Management, Recreation Opportunities, History of Aspen Graffiti	Signs along trail/trailheads
Nankoweap Trail (RN)	Pre-historic Use by Native Americans, Historic Use by J.W. Powell	Sign

INTERPRETIVE SITE (AND ROS CLASS)	THEMES	INTERPRETIVE MEDIA
University Tours (RN)	Resource Management Activities	Personal Services
Information Site		
District Office (R)	Forest Service Mission, Wildlife and Cultural Resources, General Information	Exhibits/Brochures Personal Services
Off-site		
Fredonia Library (R/U)	Cultural Resources	Exhibit
Local Schools and Civic Groups (R/U)	Forest Service Management and Environmental Education	A-V/Personal Services/ Brochures
District Travelling Display (R/U)	Forest Service Mission and Resource Management Activities	Exhibit/Brochures/A-V Personal Services (sometimes)

D. Implementation

1. Site Development Schedule (FY90 - FY95)

Fiscal Year	Priority	Site	Development Planned
1990	1	North Kaibab Visitor Center	Construct facility to serve as primary interpretive site; prepare interpretive plan
	2	State Route 67	Prepare interpretive plan; goal is to complete 60% of signing by 1995
	3	Motor Tours	Offer this service twice daily on a continuing basis in subsequent FYs.
	4	Jacob Lake Ranger Station	Complete structural rennovation;place sign;furnish and develop photographic exhibit prior to 1991 NFS Centennial
	5	Snake Gulch	Prepare video
	6	Brow Monument Brink Monument	Place signs
	7	East Rim Viewpoint Navajo Trail;Kaibab Plateau Trail	Develop parking areas
	8	Fredonia Library	Prepare exhibit
	Continuing	University Tours Local Schools and Civic Group;Fairs	Provide tours and presentations annually; designate District Coordinator for Environmental Education
	X	Paria Overlook	Signing in place
1991	9	North Kaibab Visitor Center	Have 4 exhibits in place by 5/91;refer to VC interpretive plan for specifics
	10	Jacob Lake Amphitheater	Upgrade access/parking area;prepare new programs;increase interpretive staff
	11	Motor Tours	Prepare brochure describing tour stops; design/place sign (Road 217 sinkhole)
	12	State Route 67	Place signs in accordance with SR 67 interpretive plan;complete Scenic Byway signing
	13	LeFevre Overlook	Construct total access ramp and toilets; design self-guided trail

Fiscal Year	Priority	Site	Development Planned
1991	14	Jacob Lake Nature Trail (Campground)	Design trail;prepare brochure for dwarf mistletoe control/rehabilitation project
	15	Snake Gulch	Prepare brochure;place signs at Kanab Creek Wilderness boundary
	16	Jacob Lake Ranger Station	Prepare brochure;begin living history program on limited basis
	17	Three Lakes Cabin	Rehabilitate cabin and place sign
	18	Jacob Lake RV Park/ Inn Nature Trail	Upgrade existing trail;prepare brochure and place signs
	19	Navajo Trail	Develop and place signs along trail
	20	Big Saddle/Quaking Aspen Springs	Develop parking areas
	21	District Office	Plan front entrance remodeling;plan exhibits
	22	Travelling Display	Prepare display;use currently published brochure
1992	23	North Kaibab Visitor Center	Continue exhibit development/brochure preparation;develop 1 A-V presentation
	24	State Route 67	Place signs in accordance with SR 67 interpretive plan;prepare audio cassette
	25	LeFevre Overlook	Construct self-guided trail;place signs and prepare brochure
	26	Jacob Lake Nature Trail (Campground)	Reconstruct trail;place signs and prepare brochures for trail
	27	Total Access Nature Trail (Jacob Lake)	Begin planning/site plan development
	28	East Rim Viewpoint	Place additional signs
	29	Houserock Pueblo	Place signs after excavation
	30	Kaibab Plateau Trail	Prepare interpretive plan;begin sign placement;brochure development
	31	District Office	Remodel front entrance;continue exhibit development

Fiscal Year	Priority	Site	Development Planned
1993	32	North Kaibab Visitor Center Trail (Campground)	Continue exhibit development/brochure preparation;develop 1 A-V presentation
	33	State Route 67	Place signs in accordance with SR 67 interpretive plan
	34	Brow Monument	Upgrade/reconstruct trail
	35	Total Access Nature Trail (Jacob Lake)	Implement trail interpretive plan
	36	Jumpup/Sowats Cabins	Place signs
	37	Kaibab Plateau Trail	Continue sign placement
1994	38	State Route 67	Place signs in accordance with SR 67 interpretive plan
	39	Warm Springs Area	Place signs
	40	VT Blowdown	Replace existing sign
	41	Total Access Nature Trail (Jacob Lake)	Implement trail interpretive plan
	42	Kaibab Plateau Trail	Continue sign placement
	43	Nankoweap Trail	Place sign
1995	44	State Route 67	Place signs in accordance with SR 67 interpretive plan
	45	Big Springs Area	Place sign;begin development of interpretive plan
	46	Total Access Nature Trail	Implement trail interpretive plan
	47	Kaibab Plateau Trail	Continue sign placement

2. Personnel

Visitor Center staffing will need to be increased to provide longer daily coverage once the new facility is operational. This will require at least a staff of five. Continue using volunteers wearing appropriate uniforms and schedule a uniformed, Forest Service employee to work evening shifts. Consider having resource specialists occasionally staff the facility to present special programs on heavy use weekends.

Jacob Lake Amphitheater staffing should consist of a volunteer interpreter and an employee to present daily programs. This employee will probably be responsible for the living history program at Jacob Lake Ranger Station. Efforts should be made to use interns from universities with interpretive training programs.

Motor tours will be staffed with volunteer guides wearing appropriate uniforms. No changes in the existing format are planned, so staffing levels will not need adjustment.

Existing personnel will be satisfactory to staff the District office interpretive site and provide personal services at off-site events and university tours.

Training to enhance interpretive and communication skills will be needed to meet the objective of providing a quality program. The student intern may be qualified to provide some of this training and courses are readily available to improve communication. Additional training may be available through the National Association of Interpretation and in the Journal of Interpretation.

3. Publicity

The District needs to adequately publicize the interpretive services program. Promotional flyers advertising forest tours, evening campfire programs, living history presentations, and other special interpretive events will be prepared and widely distributed locally to businesses and regionally through travel councils. News releases to local newspapers and travel magazines will be prepared by the District Recreation Staff.

Public service spots on local radio and television will be prepared and used throughout the year. The local television station is willing to broadcast Forest Service produced videos. The Forest Service 1610 AM radio system will be programmed with general information and special announcements. Since the system has limited range it will be transmitted from the Visitor Center.

Work directly with travel councils, local Chamber of Commerce organizations, and motel and restaurant associations to elevate the visibility of the District's recreational opportunities and interpretive services program. Organize an annual press tour to highlight new and existing interpretive exhibits, signs, and projects.

To improve name recognition of the North Kaibab District a special postcard will be developed in partnership with the interpretive association. It will be

available for sale by the interpretive association at the Visitor Center and local businesses.

4. Funding and Partnerships

Recreation management will continue to fund the majority of the interpretive services program; however, benefiting resource management programs will begin to provide more funding in 1991 for exhibits, signs, and salaries. Interpretive services will be considered on an equal level with other programs during allocation of District funding.

Partnerships will continue to be a major source of funding. Both the partner and the Forest Service benefit from these relationships. Existing partnerships will be strengthened and new ones forged. Partnerships planned include:

a. Kaibab Forest Products - continue providing interpretive services at the Visitor Center, forest motor tours, and Jacob Lake Amphitheater. Work with the company to prepare a forest management display in the Visitor Center and additional brochures describing forest resource management and recreational opportunities.

b. Southwest Natural and Cultural Heritage Association (SNCHA) - continue operation of the Visitor Center interpretive publication sales area. SNCHA will assist in the preparation and printing of all interpretive brochures and A-V productions when requested by the Forest Service. Selected brochures will be published in German and French. Revised copies of the District Recreation Opportunity Guide (ROG) will be printed and sold by SNCHA.

c. Recreative Ink - continue work on special projects, such as the mountain biking supplement to the ROG.

d. Canyoneers, Inc. - continue existing interpretive programs and expand the relationship by providing additional interpretive services at Kaibab Lodge. These services may include development of recreational trails with interpretation, evening campfire programs at the adjoining DeMotte Campground, and joint funding of State Route 67 wayside signs.

e. Arizona Archaeological Society (AAS) - will provide assistance in locating furniture and accessories to decorate Jacob Lake Ranger Station in circa 1910 style. AAS will assist in outreach efforts with local schools and civic groups. Preparation of exhibits is also planned.

f. Jacob Lake Inn and Jacob Lake RV Park - these businesses will assist in the development of the Nature Trail that links both locations. Brochure preparation and publication costs will be partially financed. Participation by the Inn in funding interpretive services in the Jacob Lake area will be explored.

g. National Outdoor Leadership School (NOLS) - develop a program with NOLS to foster environmental education in wilderness. NOLS will perform wilderness oriented projects in conjunction with scheduled trips.

h. Arizona Department of Transportation (ADOT) - continue cooperative efforts to design pull-outs along State Route 67. Work with ADOT to place Scenic Byway signs and other interpretive signs including directional signs to off-highway sites.

i. National Park Service (NPS) - develop a program to exchange interpreters and/or provide joint interpretive programs. Invite NPS to serve as a planning team member in designing interpretive projects for State Route 67.

j. Bureau of Land Management - combine efforts to interpret pueblo sites in Houserock Valley that are relatively close to one another.

k. Arizona Office of Tourism, Utah Travel Council, Kane County Travel Council, and Five County Color County - work with these organizations in publicizing recreation opportunities available on the District and in exchanging and distributing brochures. The Visitor Center will stock and distribute travel literature provided by these organizations.

l. KCKK radio and Channel 10 television - will provide publicity spots as a public service.

m. Southern Utah News and Daily Spectrum Newspapers - work with editors to prepare feature articles on forest management, interpretive projects, and recreation opportunities.

E. Monitoring

The interpretive services program should be evaluated using program monitoring, impact assessments, and economic efficiency evaluations. Program monitoring will be directed at determining: 1) if the program was implemented as planned, 2) if the intended audience was reached and the numbers, 3) the number of staff involved, 4) pertinence of program relative to recent agency policy changes, and 5) if the program effort is sufficient in meeting needs, focuses on important topics, is of an appropriate size, etc. Impact assessments will be used to 1) determine whether audiences show desired responses in learning, feelings, or behavior, 2) determine if the program produced effects which were not intended, and 3) determine which interpretive media have the greatest impact (immediate and long-range) on audiences. Economic efficiency evaluations will be used to 1) determine if the program justifies the expenditures and which projects are more efficient and 2) compare interpretive methods to ascertain which are the most effective relative to the degree of effort expended and accomplishment of program objectives.

Methods of evaluation will include daily observation by staff of audience behavior during and after activities, audience completion of questionnaires distributed by partners, and observation of behavior traces. Review of the program by experienced interpretive personnel should be periodically conducted. Interpretive services will be adjusted according to findings.

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APPENDIX A
KAIBAB FOREST PRODUCTS COMPANY
AND
KAIBAB NATIONAL FOREST
JACOB LAKE AMPHITHEATER

DATE:_____

WHICH PROGRAM DID YOU SEE AND DID YOU ENJOY IT?

_____

_____

_____

_____

_____

WHAT TOPIC(S) WOULD YOU LIKE TO HAVE PRESENTED AT FUTURE PROGRAMS?

_____

_____

_____

_____

ADDITIONAL COMMENTS:

_____

_____

_____

_____

_____

THANK YOU FOR YOUR COMMENTS.

NAME:_____

ADDRESS:_____

CITY/STATE:_____

ZIP CODE:_____

APPENDIX A
KAIBAB FOREST PRODUCTS COMPANY
AND
KAIBAB NATIONAL FOREST
NORTH KAIBAB FOREST TOURS

DATE:_____

WHAT DID YOU THINK OF THE TOUR?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

WHAT IMPROVEMENTS DO YOU SUGGEST FOR THE TOUR?

_____

_____

_____

_____

_____

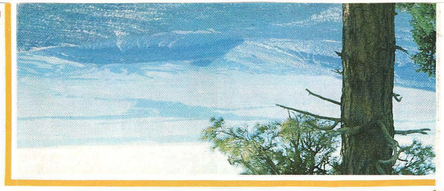
THANK YOU FOR YOUR COMMENTS.

NAME:_____

ADDRESS:_____

CITY/STATE:_____

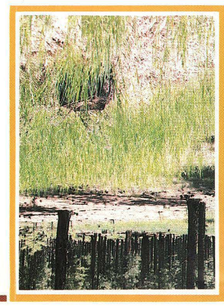
ZIP CODE:_____

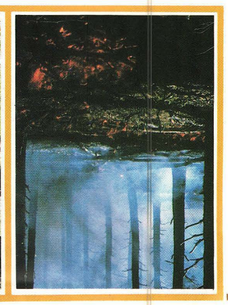


The North Kaibab Ranger District lies north of the Grand Canyon and rises dramatically to 9,000 feet in elevation. Life zones range from the dry Sonoran desert zone at the extreme in Kanab Creek to the frosty zone of the sub-alpine zone in the south-central portion of the Ranger District. The Piute Indians call this high plateau "the mountain lying down" or "Kaibab", but it might also be imagined as an island in the sky, holding its fauna prisoners for millenia, surrounded by canyons and deserts which they could not or would not cross.

Writing for the Grand Canyon Natural History Association, author Kathryn Wilde-Shoemaker very lucidly describes the North Rim which includes the Kaibab Plateau: "The North Rim is equally as innovative as the Canyon it borders — yet is a unique and powerful entity on its own. Perhaps the Canyon itself was your destination, and the North Rim simply the means to that end. Hopefully, you will grow to appreciate the North Rim for what it is — a tremendous plateau from which the eloquent Canyon was sculptured, and a distinct biological package. Fingers of the plateau extend far out into the great abyss; canyons cut by large tributaries dissect the cliffs of the North Rim and recess deep into the plateau, merging the two worlds in a torturous fashion. The two are intimately and ultimately related, yet the cool elevated Kaibab Plateau maintains its integrity and stands in stark contrast to the harsh desert below."

Kaibab NATIONAL FOREST



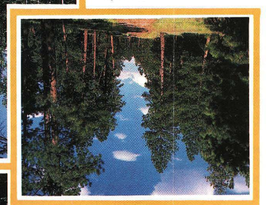


Left: Fire is a tool used to control the buildup of dead trees, fallen branches, ground vegetation and other burnable materials collectively called slash. Prescribed burning is done at a time when the fire is least likely to escape, and when atmospheric conditions allow maximum smoke dispersal.

Right: With the slash removed, forage production increases, providing more food for wildlife and livestock and a healthier forest for the benefit of all.

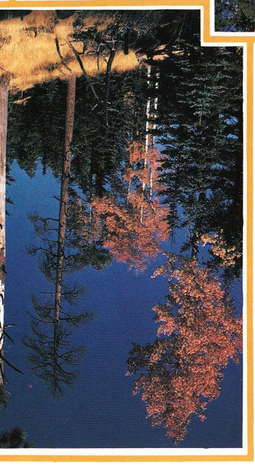
FOREST MANAGEMENT

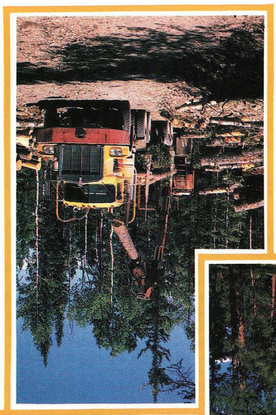
Timber harvest practices on the North Kaibab recognize the special significance of the area as a wildlife preserve. President Teddy Roosevelt acknowledged the uniqueness of the Kaibab Plateau in 1906 when he established the Grand Canyon Game Preserve. Careful removal of overmature trees is planned to open the forest canopy on selected areas under prescribed patterns and methods, thereby increasing food production for deer, turkey and many other species.



Kaibab Forest Products Company performs a vital function in the management of National Forest resources. The perpetuation of a healthy forest is accomplished by the careful and timely harvest of deteriorating trees, and the task of forest management is the progressive and responsible harvesting of timber for the benefit of recreation, wildlife, water, scenic beauty, forest products and local employment.

The North Kaibab is truly unique and the Kaibab Forest Products Company is proud to be a part of local forest management programs. We would like for one and all to visit the North Kaibab and hope that this brochure will enhance your experience.





Photos by C & B Moore

HOME TO . . .

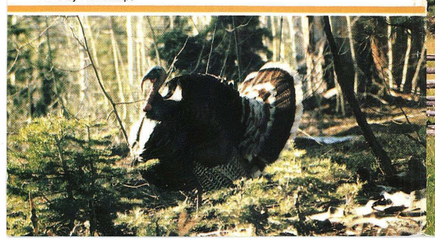
The diversity of the Kaibab Plateau provides a variety of habitats — desert, woodland, coniferous — for over 100 species of wildlife.

Photos by C & B Moore

The Kaibab squirrel, found only on the North Kaibab, differs from its cousin the Abert squirrel, found south of the Grand Canyon, by having a dark body and a white tail. The differences between these two squirrels are often used as an example of divergent evolution which often occurs when a population of a species becomes isolated.

Other species which make the Kaibab Plateau their home include the Kaibab mule deer, Merriam's turkey, chukar, blue grouse, rabbits, pronghorn antelope, mountain lion and a remnant buffalo herd which grazes in Houserock Valley adjacent to the Colorado River.

Photo by Fred Phillips



The correct telephone number for the North Kaibab Ranger District is (602) 643-7395.

ARIZONA'S

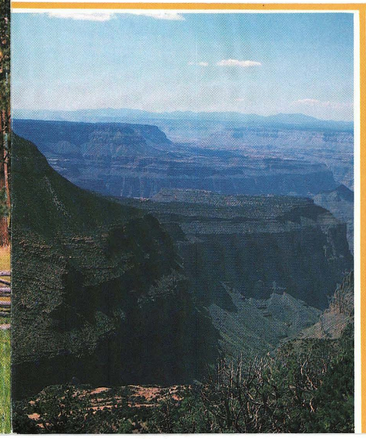
Kaibab NATIONAL FOREST

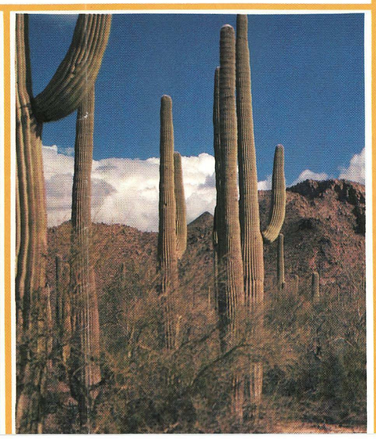
Kaibab PLATEAU

United States Department of Agriculture
Forest Service
North Kaibab Ranger District
Kaibab National Forest

PREPARED BY COWDEN ASSOCIATES ADVERTISING
GRAND JUNCTION, COLORADO

Produced by
Kaibab Forest Products Company
in cooperation with
Kaibab National Forest





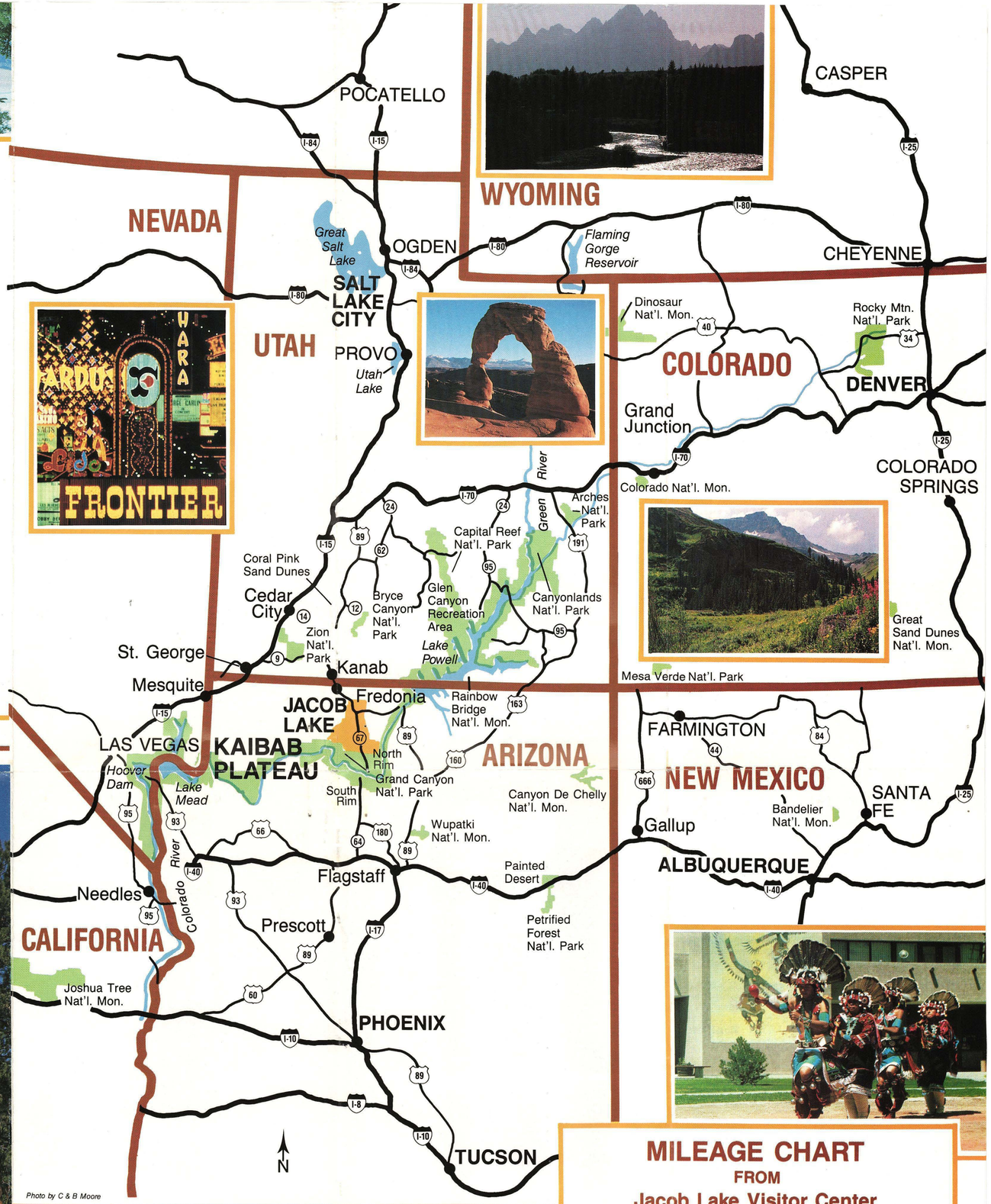


Photo by C & B Moore

MILEAGE CHART
FROM
Jacob Lake Visitor Center

North Rim	42	St. George	112
South Rim	174	Cedar City	118
Fredonia	30	Mesquite, NV	143
Kanab, UT	37	Las Vegas, NV	222
Pipe Springs	45	Flagstaff, AZ	166
Zion Canyon	78	Painted Desert	282
Bryce Canyon	115	Petrified Forest	276
Cedar Breaks	106	Lake Powell	83
Capital Reef	235	Salt Lake City	371
Coral Pink Sand Dunes	57	Phoenix	312
Interstate 15	99	Needles, CA	320

DRIVE WITH CARE!

Kaibab Plateau and National Forest

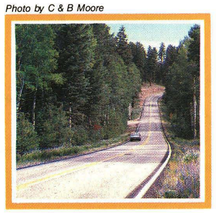
Welcome to the Kaibab Plateau.

This brochure has been prepared in order to make your visit here more enjoyable. An information booklet on specific recreational opportunities, as well as a detailed forest map are also available for a nominal fee at the Jacob Lake Visitor Information Center. Enjoy your stay!

For more information call (602) 643-7385, or write:

N. Kaibab Ranger District
Box 248
Fredonia, AZ 86022

Photo by C & B Moore



1 STATE HIGHWAY 67

Author James Tallon, in the June, 1983 issue of *Arizona Highways,* described the forty-four mile drive from Jacob Lake to the North Rim of the Grand Canyon as "The Most Pleasant 44 miles in America." Arizona State 67, to further quote Mr. Tallon, "flows through some of the world's most beautiful alpine scenery. Vast, dense forests of pine, fir and aspen cover the Kaibab Plateau, opening on lush meadows awash with wild flowers, and jewel-like lakes." The drive to the North Rim over Highway 67 is as much a part of the visitor's experience as the Grand Canyon itself.

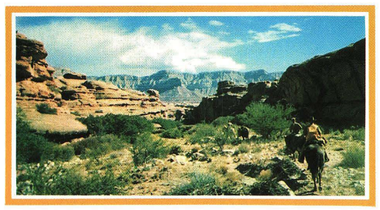
Through the efforts of the National Parks and Conservation Association, Sierra Club, Kaibab Forest Products Company, Federal Highway Administration, U.S. Park Service and the Forest Service, State Highway 67 became Arizona's first designated Scenic Parkway in 1985 and is now known as "Kaibab Plateau-North Rim Parkway."

State Highway 67, because of heavy winter snow cover, is normally closed from mid-November through mid-May. Enjoy your drive through the Kaibab National Forest — it will be a memorable part of your trip to the Grand Canyon.

2 HOUSE ROCK BUFFALO RANCH

Shortly after the establishment of the Grand Canyon Game Preserve in 1906, Charles C. "Buffalo" Jones acquired a small herd of buffalo and brought them to the Kaibab Plateau. After an experimental venture to cross breed the buffalo with cattle failed, they were sold to the State of Arizona and moved to House Rock Valley in 1926. Their offspring exist there today, managed by the Arizona Game and Fish Department.

The 100 or so buffalo at House Rock Ranch offer a unique opportunity for viewing free-ranging buffalo in their natural habitat. To reach the ranch from Jacob Lake, take US 89A east for 20 miles to Forest Road 445. Turn south onto FR 445 and travel 19 miles to FR 632. Travel 2 miles east on FR 632 to the Ranch Headquarters.



3 WILDERNESS AREAS

Wilderness is part of the American heritage, and the North Kaibab offers over 108,000 acres of wilderness that remain wild and free for the enjoyment of the American people. There are two Wilderness Areas within the boundaries of the North Kaibab Ranger District: Kanab Creek Wilderness in the west, and Saddle Mountain Wilderness in the southeast. Both of these areas are remote and formidable, and the novice is discouraged from venturing into them unless accompanied by an experienced backpacker.

The nearest trailheads for access to the Kanab Creek Wilderness can be reached by taking Forest Roads 461 and 462 west from Jacob Lake. Travel 9 miles to FR 422, then turn south to FR 423. Follow this road west to FR 642 which then dead-ends at the start of wilderness trail #59.

To access the Saddle Mountain Wilderness, go south from Jacob Lake on AZ 67 approximately 25 miles to FR 422. Travel east to FR 610, then south to the end where it joins FR 219. Trail #6 starts ¼ mile from here and continues into South Canyon.

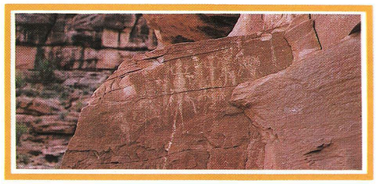
4 CAMPGROUNDS & PICNIC AREAS

There are three developed campgrounds for picnicking and camping on the North Kaibab. Campsites are available on a first-come, first-served basis and all campgrounds limit campers to a 14-day stay. Daily user fees are charged.

Jacob Lake Campground, located 30 miles south and east of Fredonia at the intersection of U.S. 89A and AZ 67, sits at an elevation of 7,900 feet and offers 53 single-unit camping sites with tables, cooking grills and water.

Demotte Campground, at an elevation of 8,800 feet is 25 miles south of Jacob Lake on AZ 67. It has 20 single-unit camping sites and features access to the North Rim of the Grand Canyon.

Indian Hollow Campground serves as an entrance to Thunder River Trail in the Grand Canyon National Park. It is 36 miles southwest of Jacob Lake, and has 3 single-unit camping sites.

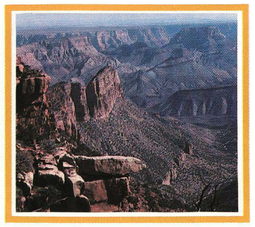


5 HISTORIC SITES

Old Jacob Lake Ranger Station: Built in 1910, this cabin and barn are listed in the National Register of Historic Places. Take Forest Road 461 west for ¾ of a mile from AZ 67 at Jacob Lake, then turn south for ¼ mile on FR 282. The old Ranger Station is on the left (east) side of the road. This historic Ranger Station is significant for its association with the initiation of land conservation programs by the U.S. Forest Service at the turn of the century. It stands in its original site, isolated among tall pine trees.

Brow Point Monument: The John Wesley Powell survey (forerunner to the U.S. Geological Survey) established a survey station here in the early 1870's. It is one of the few topographic monuments from the survey which survive today, and is listed in the National Register of Historic Places. It marks a geographic point, but it also commemorates the efforts of a government survey crew working under difficult and primitive conditions, and the effect they had on the early settlement of this area.

Indian Sites and Ruins: It is believed that human habitation of the North Kaibab occurred as early as 2000-4000 B.C. However, the majority of ruins and artifacts can be traced to the Anasazi occupation from about AD 475 to 1100. There are also many sites associated with the southern Paiute Indians. Prehistoric Indian sites can be found throughout the North Kaibab, but unauthorized disturbance of these, including collecting surface artifacts, is illegal and subject to severe penalty. Please leave them undisturbed.



6 SCENIC VIEWS

The following vista points give the forest visitor a wide variety of spectacular views. Specific information on roads and directions are contained in the North Kaibab booklet on recreational opportunities, which can be obtained, along with current information on road conditions and a forest map, at the Jacob Lake Information Center. Distances and times are estimated using Jacob Lake as a starting point.

Crazy Jug Point: Offers a panoramic view of the Grand Canyon, looking into Tapeats Amphitheater. A 2½-hour round trip (30 miles one way) on gravelled roads suitable for sedans in dry weather.

East Rim Viewpoint: An overview of steep timbered slopes descending into Saddle Mountain Wilderness Area and House Rock Valley, with Marble Canyon and the Vermillion Cliffs as backdrops. A two-hour round trip (32 miles one way) on State Highway 67 and gravelled Forest roads suitable for sedans.

Fire Point: A panoramic view of a variety of side canyons feeding into the Grand Canyon. A 2½-hour trip (39 miles one way) on State Highway 67 and gravelled roads suitable for sedans in dry weather.

Jumpup Point: A spectacular view into Kanab Creek Canyon on one side and Jumpup Canyon on the other, with the Grand Canyon as a panorama in the background. A 3-hour round trip (35 miles one way) on gravelled roads suitable for pick-ups and four-wheel-drive vehicles.

Marble View Point: A panoramic view of Saddle Mountain, House Rock Valley, Marble Canyon and the Vermillion Cliffs, looking from the forest into the desert below. A two-hour round trip (37 miles one way) on State Highway 67 and gravelled Forest roads suitable for sedans.

Timp Point: A panoramic view of the Grand Canyon, and one of the few places to view Thunder River as it spills out of the vertical cliffs above Tapeats Creek. A 3-hour round trip (40 miles one way) on State Highway 67 and gravelled Forest roads suitable for pick-ups and four-wheel-drive vehicles.

7 COMMERCIAL FACILITIES

Jacob Lake Inn at the junction of US 89A and AZ 67, provides a gas station, restaurant, gift shop and lodging.

Jacob Lake RV Campground, just south of Jacob Lake Campground on FR 461, provides complete utility hook-ups for RVs.

Kaibab Lodge, 25 miles south of Jacob Lake Campground provides lodging, restaurant, and gift shop.

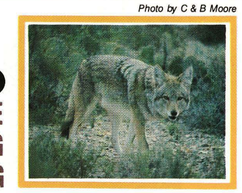
North Rim Country Store, just east of the Kaibab Lodge provides gas, groceries, and camping equipment.

VT Horse Riding Stable, just south of the Country Store provides rental horses.

North Rim Lodge and Campground, 13 miles south of the Grand Canyon National Park entrance, provides lodging, Post Office, restaurant, and curio shop.

In addition, the towns of Fredonia, Arizona (30 miles north of Jacob Lake) and Kanab, Utah (37 miles north of Jacob Lake) provide lodging, food, gas and other supplies.

Photo by C & B Moore

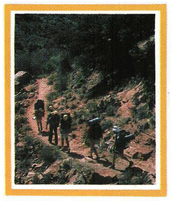


8 WILDLIFE VIEWING & HUNTING

The diversity of wildlife found on the Kaibab provides unsurpassed enjoyment and aesthetic value for the photographer, bird-watcher, nature lover, hiker, camper, traveler and hunter. Wildlife habitat improvement is an important goal of the overall resource management program on the North Kaibab.

For those interested in viewing and photographing wildlife, the best season is from May 1 to November 1 when roads are usually open. The best time for viewing is in the early morning or early evening, especially near sources of water. Meadows, parks, and other openings in the forest are especially attractive to wildlife because of their increased food supply.

For the hunter, the North Kaibab is famous for producing record-class mule deer and there are established seasons for both bow and rifle hunters. Game birds, such as the chukar partridge and wild turkey, are also available to sportsmen during established seasons. The Arizona Game and Fish Department sets the hunt dates and numbers, and hunters are selected by drawing.



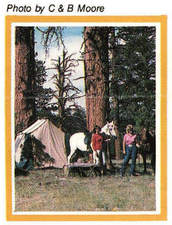
9 TRAILS

Trails on the North Kaibab offer both challenges and rewards for the hiker, bicycle enthusiast, equestrian or cross-country skier. Challenges come from the steep rugged terrain, primitive trails, and sometimes a lack of water. Rewards include solitude among the most scenic features found in all of the canyon lands, the discovery of unique rock formations, and breathtaking views of distant vistas.

The general location of these trails is shown on the Forest map. Specific information on each trail is provided in the North Kaibab booklet on recreational opportunities. Copies of these, and other information, can be obtained at the Jacob Lake Information Center.

In the vicinity of Jacob Lake there are a series of "loop" trails varying in length from 5 to 10 miles. These are ideally suited for hikers and bicyclists who have a few hours of spare time to enjoy the cool timber country, with an opportunity to see some of the area's wildlife.

Photo by C & B Moore



10 PRIMITIVE CAMPING

Camping is not restricted to the campgrounds. Those who prefer solitude and privacy may camp anywhere within the Forest boundaries without fee. There are some restrictions, however. Camping is not permitted in the meadows and is not advisable along highways. There are usually signs indicating that camping is illegal in such places. No sanitary facilities are available except at developed campgrounds. Campers are expected to pack out all litter and trash.

Some of the more popular and most accessible camping sites are:

East Rim Viewpoint* Good view of Shadow Mountain, House Rock Valley, Marble Canyon and the Vermillion Cliffs.

Parissawampitts Point* Panorama of the Grand Canyon.

Quaking Aspen Springs* Secluded, cool, timbered site for wildlife viewing.

Timp Point** Panorama of the Grand Canyon with a view of Thunder River.

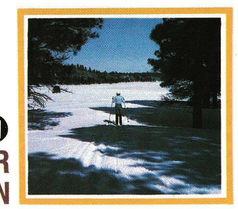
Crazy Jug Point* Panorama of the Grand Canyon.

Sowats Point** Good view of Kanab Canyon and a panorama of the Grand Canyon.

Jumpup Point** Kanab Canyon on one side, Jumpup Canyon on the other, with the Grand Canyon in the distance.

*Accessible by sedan in dry weather.

**Accessible by pick-up or four-wheel-drive vehicle.



11 WINTER RECREATION

The North Kaibab offers a wide variety of winter sports, including cross-country skiing, snowmobiling, sledding, tubing, or just romping in the snow. Christmas tree cutting is a popular activity in early December.

The snowpacked roads provide access to areas that will challenge the most experienced enthusiast for snowmobiling and cross-country skiing. And there are plenty of areas for novices as well. US 89A is open to provide access to the Jacob Lake area. Forest Road 422 provides access to Big Springs and other recreation areas, however AZ 67 is closed from mid-November to mid-May.

During the winter, use of the North Rim from the Park boundary to Cottonwood campground in the inner canyon is by permit only. Access to the North Rim from Jacob Lake is by cross-country skiing or snowshoeing. Snowmobiling is allowed in the Kaibab National Forest on the west side of Highway 67, but is prohibited inside the Grand Canyon National Park.

Map by James Niehues